

CLAIMS

1. A sucker for an adhesion arrow comprising:
a dome-shaped adhesion portion made of a flexible material having the resiliency,
5 the adhesion portion including an adhesion surface having a concave shape and a substantially circular boundary to generate a vacuum when the adhesion surface comes into hermetical contact with the flat surface and then is restored to the original shape by the resiliency, and an annular projection protruding by a predetermined width and height from the adhesion surface along a position with a predetermined radius from the center of the
10 adhesion surface; and
a fixing portion extending from a back surface of the adhesion portion.
2. The sucker according to Claim 1, further comprising:
an inclined surface extending from a boundary of the adhesion surface to a
15 boundary of the back surface such that the diameter of a cross section of the sucker increases to have the shape of a truncated cone, thereby absorbing the impact when the adhesion surface comes into contact with the flat surface.
3. The sucker according to Claim 2,
20 wherein the flexible material having the resiliency is silicone resin.
4. The sucker according to Claim 3, further comprising:
an annular projection formed on an outer circumferential surface of the fixing
portion.
25
5. An adhesion arrow, comprising;
the sucker with the annular projection formed on the adhesion surface according to any one of Claims 1 to 4; and
an air propulsion member including a sucker fixing portion having a sucker fixing
30 hole formed in a face of an end thereof to fixedly receive the fixing portion of the sucker,

and a propulsion vane portion having the shape of a hollow funnel of which the diameter increases towards the other end of the sucker fixing portion.

6. The adhesion arrow according to Claim 5, further comprising:

5 a sucker supporting member including a circular ring portion fixedly fitted around an outer circumferential surface of the sucker fixing portion of the air propulsion member and supporting portions formed on an outer circumferential surface of the ring portion at a predetermined angular interval, each of the supporting portions protruding by a predetermined length and width in an axial direction and in a direction perpendicular
10 thereto,

wherein the length from the center of the supporting portion to the tip thereof is longer than the radius of the adhesion portion of the sucker but shorter than a largest diameter of the propulsion vane portion of the air propulsion member.